

**ABSTRACT**

Method and an apparatus for igniting plasma in a semiconductor manufacturing apparatus are disclosed. An example plasma ignition method and apparatus sets a predetermined pressure, source power and bias power of a chamber and flows a predetermined flow rate of CHF<sub>3</sub> and Ar gases into the chamber, introduces a predetermined flow rate of Cl<sub>2</sub> gas into the chamber, completes the supply of Cl<sub>2</sub> gas, and ignites plasma.